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## PATENT SPECIFICATION



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### COMPLETE SPECIFICATION

#### Guiding Device for Windows and Doors

I, WILHELM WALZ, a Citizen of the Swiss Confederation, of Wädenswil, Zürich, Switzerland, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to an improved guiding device for sliding and folding windows and doors of the kind comprising two panels one of which is mounted on hinges at one vertical edge and the other of which, the sliding panel, is hingedly attached to the other vertical edge and is provided with means whereby it can slide along the window or door frame; the construction being such that the two panels can lie in the same plane when the window or door is shut and may be arranged alongside each other when the window or door is open.

Any suitable hinges may be used between the two panels such as those of knuckle type.

The chief feature of the invention is that a sliding member is movably mounted in a casing secured to the top of the sliding panel, said sliding member being connected to a hanger running on balls in a rail secured to the frame of the window or door.

An example of the invention is shown in the accompanying drawings as applied to a window.

Fig. 1 shows the window, partly opened, and its frame, in perspective.

Fig. 2 shows, on larger scale, an example of the sliding member and its component parts.

Fig. 3 is a cross section through the fitting seen in Fig. 2 and

Fig. 4 shows a suitable guide arrangement for the lower end of the panel.

The window shown is provided with a hinged panel 1 which is mounted in the known manner in the window frame 4 by means of hinges 2, 3. To this hinged panel 1 there is connected, by means of hinges 6, a sliding panel 5. At the top of the guided end of the sliding panel 5 there is secured a bracket 8 and in this there is movably mounted a sliding member 11 subjected to the action of a spring 10. The sliding member is connected, by means of a screw 12, to a hanger 13 of a

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member 14 guiding the panel, the member 14 running on balls 15 in a rail 16 secured to the inside of the frame 4. The screw 12 enables the panel 5 to be adjusted vertically and serves as a pivot for the said panel. The rail 16 may be sunk into the frame 4 as shown in Fig. 3. For guiding the panel 5 at the bottom the window frame 4 is provided with a rail 18 with which there engages a pin 19 secured to the panel 5. The pin 19 and screw 12 are directly opposite one another as are also the rails 16 and 18. To prevent binding when opening the window, the pin 19 is located at the same distance from the end of the panel 5 as from the face of the panel adjacent the lower rabbet of the frame 4, and the corner of the panel is appropriately rounded, whilst the upper corner of the panel 5 adjacent the screw 12 is cut away as indicated at 20. As the pin 19 and screw 12 form the pivots about which the panel 5 turns when opening the window, any binding between the panel 5 and the frame is avoided.

When the window is closed and it is desired to open it, any bolt, catch, or the like which may be employed but is not shown, is released and a little outward pressure is applied to the panels along their adjacent edges which pushes them outwardly as seen in Fig. 1. During this movement the member 11 will turn on or with the screw 12 and the hanger 13 with member 14 will travel on the balls 15 along the rail 16.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:

1. Guide device for sliding and folding windows and doors of the kind described, characterised by a sliding member movably mounted in a casing secured at the top of the sliding panel, the sliding member being connected to a hanger running on balls in a rail secured to the frame.

2. Guide device according to claim 1, characterised by the provision of a screw threaded connecting member (12) by which the sliding panel (5) may be adjusted vertically and which serves as a pivot therefor.

3. Guide device as defined in claims 1 110

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and 2 characterised by the provision of a spring (10) for cushioning the sliding member (11).

Dated this 2nd day of July, 1937.

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[This Drawing is a reproduction of the Original on a reduced scale.]

